Postures and Motions Library Development for Verification of Ground Crew Human Systems Integration Requirements

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Spacecraft and launch vehicle ground processing activities require a variety of unique human activities. These activities are being documented in a Primitive motion capture library. The Library will be used by the human factors engineering in the future to infuse real to life human activities into the CAD models to verify ground systems human factors requirements. As the Primitive models are being developed for the library the project has selected several current human factors issues to be addressed for the SLS and Orion launch systems. This Paper explains how the Motion Capture of unique ground systems activities are being used to verify the human factors analysis requirements for ground system used to process the STS and Orion vehicles, and how the primitive models will be applied to future spacecraft and launch vehicle processing.